

(3 Hours)

[Total Marks: 80]

- N.B.: 1) All questions are compulsory
2) Figures to the right indicate full marks
3) Draw neat, labeled diagrams wherever necessary.

Q.1. a) Answer the following: -

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- i. Write the composition and function of cerebrospinal fluid.
- ii. Enlist any four hormones of anterior pituitary.
- iii. Define: (a) Total lung capacity (b) Inspiratory capacity.
- iv. Enlist any four symptoms of Parkinson's disease.
- v. Write the functions of lacrimal fluid.
- vi. Describe Cushing's syndrome.
- vii. Define atrophy and give one example.
- viii. Enlist the triggers for asthma.

Q.1B) Answer the following: -

4

- i. _____ and _____ muscles present in iris are responsible for change in pupil diameter.
- ii. Fight and flight response is elicited by _____ system of ANS.
- iii. Aldosterone is a _____ (Mineralocorticoid / Glucocorticoid).
- iv. _____ enzyme causes break down of Acetylcholine in synapse.

Q.2. a) Answer the following: -

8

- i. Explain the causes of cell injury.
or
Differentiate between apoptosis and necrosis.
- ii. Explain the cytomorphological changes in cancer.
or
Explain the process of metastasis.

Q.2.B) Answer any one the following

4

- i. Describe the factors affecting the biological effects of radiation
- ii. Explain the biological effects of nuclear radiation.

Q.3.A) Answer any two the following:

8

- i. Give an account of parts of the brain stem and their functions.
- ii. Write a note on cranial nerves.
- iii. Discuss the structure and the functional classification of the neurons.

Q.3.B) Discuss the pathophysiology of (any one)

4

- i. Stroke
- ii. Alzheimer's disease

Q.4.A) Answer any two the following:

8

- i. Discuss transport of oxygen in blood.
- ii. Explain mechanism of external respiration.
- iii. Draw neat and labeled diagram of bronchial tree.

Q.4.B) Discuss the pathophysiology of (any one)

4

- i. Respiratory acidosis and alkalosis
- ii. Bronchitis

Q.5.A) Answer any two the following:

8

- i. Explain calcium homeostasis.
- ii. Comment on physiological role of thyroid hormones.
- iii. Explain in detail role of posterior pituitary.

Q.5.B) Discuss the pathophysiology of (any one)

4

- i. Grave's Disease
- ii. Addison's disease

Q.6.A) Answer any two the following:

8

- i. Discuss the anatomical features of the middle ear and its role in hearing.
- ii. Write a note on physiology of gustation.
- iii. Discuss the structure of the skin.

Q.6.B) Answer any one the following

4

- i. State the effect of acetylcholine on the following: bronchi, heart, salivary gland, pupil of the eye
- ii. Distinguish between sympathetic and parasympathetic nervous system.
